UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/724,829	12/02/2003	Masayuki Koshino	246071US90	2814

22850 7590 11/15/2007 OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314	**EXAMINER** MEW, KEVIN D

ART UNIT	PAPER NUMBER
2616	

NOTIFICATION DATE	DELIVERY MODE
11/15/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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	Application No.	Applicant(s)
Office Action Summary	10/724,829	KOSHINO ET AL.
	Examiner	Art Unit	
	Kevin Mew	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>04 September 2007</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5,7 and 8* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5, 7-8* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

Final Action

Response to Amendment

1.   Applicant's Remarks/Arguments filed on 9/4/2007 have been fully considered. Claim 6

has been cancelled by applicant. Claims 1-5, 7-8 are currently pending.

2.   Acknowledgement is made of the amended abstract with respect to the objection to the

specification set forth in the previous Office action. The corrections are acceptable and the

objection to the specification is now withdrawn.

Claim Rejections - 35 USC § 102

        The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3.   Claims 1-5 are rejected under 35 U.S.C. 102(b) as being anticipated by the admitted prior

art, Ruffini (WO 0042728 A).

        Regarding claim 1, Ruffini discloses a radio access network (GSM network, page 10,

lines 7-13) system having a synchronous server (main unit, page 7, lines 15-23) and at least one

node (respective elements, page 8, lines 1-7), wherein the synchronous server comprises:

        a clock generator (time-generating unit, page 24, lines 29-32, element 11, Fig. 2)

configured to periodically generate a clock (generates a time stamp at pre-defined time intervals,

page 7, lines 30-33, page 8, lines 1-7, page 24, lines 29-32); and

a synchronous message transmitter (transmitting unit, page 24, lines 29-32, element 12,

Fig. 2) configured to generate a synchronous message (send a time stamp) for notifying

information regarding the generated clock (notifying the transfer time regarding the clock

generated, page 8, lines 1-7), and to transmit the generated synchronous message to the node

(and to transmit the time stamp to the respective element, page 8, lines 1-10, element 2, Fig. 3)

using an IP packet (using IP, page 12, lines 7-13); and

the node (the respective element, element 2, Fig. 3) comprises:

a time calculator (an evaluating unit, element 22a, Fig. 3) configured to obtain a time of

receiving the synchronous message (for evaluating a time error, which is a variation in the arrival

times of the time stamps, page 25, lines 25-31, page 26, lines 1-21, element 22a, Fig. 3); and

a clock correction processor (a calibrating unit, page 25, lines 13-15, element 22, Fig. 3)

configured to calculate a clock correction value (calculating time error, page 25, lines 25-31) in

accordance with the time of receiving the synchronous message (according to the arrival time of

the time stamp) and the information regarding the clock notified by the synchronous message

(and the transfer time information notified by the time stamp, page 25, lines 13-15, 25-31), and

to correct a generated timing of a clock in the node (to calibrate and adjust the clock of the local

oscillator, page 26, lines 17-21, element 21, Fig. 3) in accordance with the clock correction value

(in accordance with the time error, page 26, lines 17-21),

wherein the time calculator measures a reception interval of the synchronous message

(for evaluating a time error, which is a variation in the arrival times of the time stamps, page 25,

lines 25-31, element 22a, Fig. 3) and calculates the clock correction value (calculates time error,

page 25, lines 25-31) without using the synchronous message (without using the transmission

times) when the reception interval of the synchronous message is more than a predetermined

threshold (when the maximum time error or variations in the arrival times of the time stamps has

been reached, page 26, lines 23-27).

Regarding claim 2, Ruffini discloses a radio communication method in a radio access

network system (GSM network, page 10, lines 7-13) having a synchronous server (main unit,

page 7, lines 15-23, element 1, Fig. 2) and at least one node (respective element, page 8, lines 1-

7, element 2, Fig. 3), the method comprising the steps of:

generating a clock periodically generate a clock (generates a time stamp at pre-defined

time intervals, page 7, lines 30-33, page 8, lines 1-7, page 24, lines 29-32); and

generating a synchronous message (send a time stamp) for notifying information

regarding the generated clock (notifying the transfer time regarding the clock generated, page 8,

lines 1-7);

transmitting the generated synchronous message to the node (and to transmit the time

stamp to the respective element, page 8, lines 1-10, element 2, Fig. 3) using an IP packet (using

IP, page 12, lines 7-13); and

calculating a clock correction value in accordance with a time of receiving the

synchronous message (evaluating a time error, which is a variation in the arrival times of the

time stamps, page 25, lines 25-31, page 26, lines 1-21, element 22a, Fig. 3) and the information

regarding the clock notified by the synchronous message (and the transfer time information

notified by the time stamp, page 25, lines 13-15, 25-31); and

correcting a generated timing of a clock in the node (to calibrate and adjust the clock of

the local oscillator, page 26, lines 17-21, element 21, Fig. 3) in accordance with the clock

correction value (in accordance with the time error, page 26, lines 17-21),

wherein the time calculator measures a reception interval of the synchronous message

(for evaluating a time error, which is a variation in the arrival times of the time stamps, page 25,

lines 25-31, element 22a, Fig. 3) and calculates the clock correction value (calculates time error,

page 25, lines 25-31) without using the synchronous message (without using the transmission

times) when the reception interval of the synchronous message is more than a predetermined

threshold (when the maximum time error or variations in the arrival times of the time stamps has

been reached, page 26, lines 23-27).

Regarding claim 3, Ruffini discloses a synchronous server (main unit, page 7, lines 15-

23, element 1, Fig. 2) in a radio access network system (GSM network, page 10, lines 7-13)

system having at least one node, the server (main unit, element 1, Fig. 2) comprising:

a clock generator (time-generating unit, page 24, lines 29-32, element 11, Fig. 2)

configured to periodically generate a clock (generates a stamp at pre-defined time intervals, page

7, lines 30-33, page 8, lines 1-7, page 24, lines 29-32); and

a synchronous message transmitter (transmitting unit, page 24, lines 29-32, element 12,

Fig. 2) configured to generate a synchronous message (send a time stamp) for notifying

information regarding the generated clock (notifying the transfer time regarding the clock

generated, page 8, lines 1-7), and to transmit the generated synchronous message to the node

(and to transmit the time stamp to the respective element, page 8, lines 1-10, element 2, Fig. 3)

using an IP packet (using IP, page 12, lines 7-13),

wherein the time calculator measures a reception interval of the synchronous message

(for evaluating a time error, which is a variation in the arrival times of the time stamps, page 25,

lines 25-31, element 22a, Fig. 3) and calculates the clock correction value (calculates time error,

page 25, lines 25-31) without using the synchronous message (without using the transmission

times) when the reception interval of the synchronous message is more than a predetermined

threshold (when the maximum time error or variations in the arrival times of the time stamps has

been reached, page 26, lines 23-27).

Regarding claim 4, Ruffini discloses the synchronous server according to claim 3,

wherein the synchronous message transmitter sets a time (set a pre-defined interval) of

transmitting the synchronous message as the information regarding the clock in the synchronous

message (at which to transmit the time stamp generated, page 24, lines 29-32).

Regarding claim 5, Ruffini discloses a node in a radio access network system having a

synchronous server, the node (the respective element, element 2, Fig. 3) comprising:

a receiver (a receiving unit, element 23, Fig. 3) configured to receive a synchronous

message for notifying information regarding a clock generated in the synchronous server (for

receiving the time stamp generated in the main unit, page 26, lines 1-7);

a time calculator (an evaluating unit, element 22a, Fig. 3) configured to obtain a time of

receiving the synchronous message (for evaluating a time error, which is a variation in the arrival

times of the time stamps, page 25, lines 25-31, page 26, lines 1-21, element 22a, Fig. 3); and

a clock correction processor (a calibrating unit, page 25, lines 13-15, element 22, Fig. 3)

configured to calculate a clock correction value (calculating time error, page 25, lines 25-31) in

accordance with the time of receiving the synchronous message (according to the arrival time of

the time stamp) and the information regarding the clock notified by the synchronous message

(and the transfer time information notified by the time stamp, page 25, lines 13-15, 25-31), and

to correct a generated timing of a clock in the node (to calibrate and adjust the clock of the local

oscillator, page 26, lines 17-21, element 21, Fig. 3) in accordance with the clock correction value

(in accordance with the time error, page 26, lines 17-21),

wherein the time calculator measures a reception interval of the synchronous message

(for evaluating a time error, which is a variation in the arrival times of the time stamps, page 25,

lines 25-31, element 22a, Fig. 3) and calculates the clock correction value (calculates time error,

page 25, lines 25-31) without using the synchronous message (without using the transmission

times) when the reception interval of the synchronous message is more than a predetermined

threshold (when the maximum time error or variations in the arrival times of the time stamps has

been reached, page 26, lines 23-27).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4.   Claims 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ruffini (WO

0042728 A).

Regarding claim 7, Ruffini discloses all the aspects of claim 5 above and the node further

comprises associating a time of transmitting set in the synchronous message with the time of

receiving the synchronous message in the node, upon receiving the synchronous message (page

25, lines 13-15, 25-31, page 26, lines 17-21), except fails to disclose a memory for doing the

association.

However, Ruffini discloses a storage space (element 24, Fig. 3) for storing various

calibration results of the local oscillator (page 22, lines 1-3, page 27, lines 23-31).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the

invention was made to modify the respective element 2 of Ruffini with the teaching of Ruffini in

having a memory for storing various calibration results of the local oscillator such that the

respective element of Ruffini will comprise a memory for associating a time of transmitting set

in the synchronous message with the time of receiving the synchronous message in the node,

upon receiving the synchronous message.

The motivation to do so is to obtain a use the value stored in the storage space for adjustment of the local oscillator, in the event of the time stamps of the central time-generating unit being lost.

Regarding claim 8, Ruffini discloses all the aspects of claim 7 above. Ruffini also discloses the node according to claim 7, wherein the time calculator obtains the time of transmitting the synchronous message and the time of receiving the synchronous message, calculates a transmission interval of the synchronous message and a reception interval of the synchronous message, and calculates the clock correction value in accordance with a comparison between the transmission interval and the reception interval (page 25, lines 13-15, 25-31, page 26, lines 17-21), except fails to explicitly show the time calculator obtains from a memory the time of transmitting the synchronous message and the time of receiving the synchronous message.

However, Ruffini discloses a storage space (element 24, Fig. 3) for storing various calibration results of the local oscillator (page 22, lines 1-3, page 27, lines 23-31).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the respective element 2 of Ruffini with the teaching of Ruffini in having a memory for storing various calibration results of the local oscillator such that the respective element of Ruffini will comprise the time calculator that obtains the time of transmitting the synchronous message and the time of receiving the synchronous message from a memory/storage space.

The motivation to do so is to obtain a use the value stored in the storage space for adjustment of the local oscillator, in the event of the time stamps of the central time-generating unit being lost.

Response to Arguments

5.   Applicant's arguments filed on 9/4/2007 have been fully considered but they are not persuasive.

Applicant argued on page 2, paragraphs 1-3 of the Remarks that Ruffini does not suggest or teach "calculates the clock correction value without using the synchronous message when the reception interval of the message is more than a predetermined threshold," examiner respectfully disagrees. Although the physical requirement of the network of Ruffini may require the transmission time stamps to be known with a given degree of certainty, it does not necessarily mean that the calibrating system of Ruffini will have to always use the known transmitted time stamps for calibration purpose. Furthermore, Ruffini discloses that the second phase of the calibration evaluation period will be terminated with calibration (page 8, lines 8-9) and when the time error TE reaches a predetermined value (page 26, lines 23-27). Therefore, the actual transmitted time stamps received are no longer needed in calculating the time error when the time error contributed by the arrival time intervals reaches a predetermined threshold. Hence, Ruffini teaches "calculates the clock correction value without using the synchronous message when the reception interval of the message is more than a predetermined threshold.

In light of the foregoing reasons, claims 1-5 are rejected under 35 U.S.C. 102(b) as being

anticipated by the admitted prior art, Ruffini (WO 0042728 A) and claims 7-8 are rejected under

35 U.S.C. 103(a) as being unpatentable over Ruffini (WO 0042728 A).

Conclusion

6.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing

date of this final action.

7.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Kevin Mew whose telephone number is 571-272-3141. The

examiner can normally be reached on 9:00 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Chi Pham can be reached on 571-272-3179. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

like assistance from a USPTO Customer Service Representative or access to the automated

.information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Kevin Mew   *KM*
Work Group 2616

CHI PHAM
SUPERVISORY PATENT EXAMINER 11/9/07